Minorities in the Scientific Workforce

A colleague once said to me that given a choice between a graduate applicant from a historically black institution and an applicant from China with exactly the same credentials, he would choose the Chinese student every time. Despite such attitudes, there was an impressive increase of nearly 65% in the number of science and engineering (S&E) degrees awarded to minorities between 1990 and 2000 (compared to a 13.6% increase in the total number of S&E degrees awarded to U.S. citizens and permanent residents).* But minorities participate in the scientific labor force at levels far below their representation in the total U.S. population. In the academy, minority faculty are far more likely than their white counterparts to be untenured, to receive lower salaries, and to have fewer publications and less extramural funding.†

Why should we be concerned about this situation? First, in hiring, promotion, and salary decisions, some minority scientists may be the victims of outright racial discrimination. Second, minority scientists serve as role models, encouraging future generations of potential science scholars to think seriously about scientific careers. Third, increasing the number of minorities in the scientific labor force will reduce our dependence on international S&E talent. The availability of international expertise does not justify our failure to invest adequately in the development of the scientific talents of our own citizens. Fourth, trained minority scientists can and should play a significant role in science administration and must first have opportunities to train and function as scientists. Finally, minority scientists may be particularly committed to research areas that are of specific relevance to the minority community.

Up to now, the National Science Foundation, National Institutes of Health, Department of Education, and educational institutions have tried to increase the diversity of the scientific workforce and its pipeline with incentive-based programs. Thus, fellowships at various levels, summer research experiences, and K-12 initiatives offer incentives to the participants to consider scientific careers and to institutions to encourage minority entry into the scientific workforce. If we are to address the workforce issue effectively, we must now seriously consider strategies that use another motivator: namely, consequences, or to use a less threatening term, accountability.

Federal funding agencies must begin to reward principal investigators (PIs) and their institutions not only for their scientific successes but also for their commitment to diversity, and those agencies must require accountability from those who fail to demonstrate such a commitment. One such system of accountability could require that all grant proposals to funding agencies include the following elements: (i) a detailed description of how the proposed projects will involve minorities; (ii) a description of how minority participants will be recruited to the projects; and (iii) a summary of the sponsoring institution's history of recruiting, supporting, and retaining minority scholars (faculty, students, and postdoctoral students) and tangible evidence of its commitment to increase the number of such individuals at that institution.

Thus, for example, a proposal from a PI in a department that has no minority faculty or graduate students would need to include a detailed description of what the department intends to do about this situation. Remedies could go beyond departmental recruitment and hiring practices. The department might elect to institute a summer research program to attract minority high school students or a program that involves the participation of departmental faculty in the K-12 system: training teachers, assisting in the development of science curricula, working with students and teachers in the classroom, etc. Funding agencies might actually implement new incentive programs to assist investigators, departments, and institutions in developing workforce-related initiatives. The proposals submitted by PIs and institutions should include a description of the mechanisms to be used to evaluate the proposed programs; and over time, institutions should be required to report the results of those evaluations. Proposals that fail to include this information would be at a competitive disadvantage, and the consequence would be that only those institutions that demonstrate a substantive commitment to the recruitment, development, support, and retention of minority scholars would continue to receive generous federal funding.

Incentive-based programs must not be abandoned. In particular, we must continue and increase our support for America's minority-serving institutions. But incentive programs alone will not solve the problem. It is now time to hold investigators and institutions accountable. In the scientific context at least, doing so may well lead to an operational redefinition of affirmative action.‡

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*See www.nsf.gov/sbe/srs/ssed/start.htm. †See www.nsf.gov/sbe/srs/nsf00327/start.htm. ‡See http://home.earthlink.net/~ghjones737/index.html.